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Restating the previous rejection, the Examiner asserts that "Lidow discloses all the subject matter claimed by the applicant with the exception of the limitations stated in claims 1 and 35, i.e., a local computer; the limitation stated in claims 2 and 40, i.e., the sleep analyzing server analyzes received brain activity and identifies periods of slow wave sleep; and the limitations stated in claims 3, 14 and 39, i.e., the sleep analyzing server analyzes received brain activity signals and identifies periods of non-REM sleep." To this, the Examiner "add(s) the external computer, as taught by Verrier," to find the present invention as recited in claims 1-3 and 6-40 obvious under 35 U.S.C. §103(a).

Obviousness is based on a legal standard, not what the Examiner may feel with respect to the particular invention. "To support the conclusion that the claimed invention is directed to obvious subject matter, either the references must expressly or impliedly suggest the claimed invention or the examiner must present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references." *Ex parte Clapp*, 227 USPQ 972, 973 (Bd. Pat. App. & Inter. 1985). An obviousness rejection cannot be based on the resort of the Examiner to various (non-pertinent) references and the combination of bits and pieces of the references in the light of Applicants' teachings. An extensive discussion of the criteria to be applied in obviousness rulings is set forth in *Aqua-Aerobic Systems Inc. v. Richards of Rockford Inc.*, 1 U.S.P.Q. 2d 1945, 1955-57 (N.D. Ill. 1986). "The fact that a prior art reference can be modified to show the patented invention does not make the modification obvious unless the prior art reference suggests the desirability of the modification. An attempted modification of a prior art reference that is unwarranted by the disclosure of that reference is improper." *In re Gordon*, 733 F.2d 900, 902, 221 U.S.P.Q. 1125, 1127 (Fed. Cir. 1984) (emphasis added). See also, *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990) (Although a prior art device "may be capable of being modified to run the way the apparatus is claimed, there must

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be a suggestion or motivation in the reference to do so." 916 F.2d at 682, 16 USPQ2d at 1432.).

The MPEP §2143.01 provides in pertinent part that the

FACT THAT THE CLAIMED INVENTION IS WITHIN THE CAPABILITIES OF ONE OF ORDINARY SKILL IN THE ART IS NOT SUFFICIENT BY ITSELF TO ESTABLISH PRIMA FACIE OBVIOUSNESS

A statement that modifications of the prior art to meet the claimed invention would have been "well within the ordinary skill of the art at the time the claimed invention was made" because the references relied upon teach that all aspects of the claimed invention were individually known in the art is not sufficient to establish a prima facie case of obviousness without some objective reason to combine the teachings of the references. *Ex parte Levengood*, 28 USPQ2d 1300 (Bd. Pat. App. & Inter. 1993). See also... ; *Al-Site Corp. v. VSI Int'l Inc.*, 174 F.3d 1308, 50 USPQ2d 1161 (Fed. Cir. 1999) (The level of skill in the art cannot be relied upon to provide the suggestion to combine references.).

(Emphasis added.)

As a motivation to combine, the Examiner asserts that "it would be obvious to a person of ordinary skill in the art at the time the invention was made to add the external computer, as taught by Verrier, to the device of Lidow, in order to store, manipulate and further analyze the signals." In other words, the motivation to combine is to achieve the result. The Examiner did not provide an explanation (outside of the teaching of the Application) why a person of ordinary skill in the art would be inclined "to store, manipulate and further analyze the signals." Accordingly, the Examiner has failed to make a case of *prima facie* obviousness.

Further, although the Examiner asserts that "the arguments filed Feb. 27, 2002 have been fully considered," the Examiner fails to address them. Instead, the Examiner addresses only the applicants' observation that the basis for obviousness is improper hindsight. Thus, admitting to using hindsight, the Examiner argues that the use is not

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improper but *permissible hindsight* because "it must be recognized that any judgement on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the Applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392; 170 USPQ 209 (CCPA 1971)." "However, **impermissible hindsight** must be avoided and the legal conclusion must be reached on the basis of the facts gleaned from the prior art." *MPEP* §2142 (emphasis added).

The applicants' February 27th response included much more than a simple assertion that the Examiner had relied on improper hindsight for the suggestion to combine references. Instead, as was previously pointed out, Lidow was filed roughly at the same time that the Apple I was first marketed. Thus, it seems unlikely that Lidow would suggest a need "to store, manipulate and further analyze the signals." Lidow generally describes monitoring the user for sleep activity only during a preselected period. The monitored sleep activity that may include REM sleep, but does not teach anything other than an alarm clock with a circuit receiving monitor signals. The circuit triggers an alarm during the preselected period. All of the Lidow monitoring electronics contained in the alarm clock. Where is the need "to store, manipulate and further analyze the signals"? Lidow does not suggest an awareness, much less desirability, of any.

Further for this simple yes/no response, Lidow points out that "it should be noted that absolute accuracy or efficiency is not needed in carrying out the invention, and the invention will provide benefits to subjects over a long period of time so long as it generally limits the number of times the subject awakened from a deep sleep phase." Column 3, lines 27-32. Thus, Lidow is not concerned with any more accuracy than is

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necessary to catch a shallow sleep phase if it occurs (as indicated by the monitored signals) during the preselected period.

If proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984).... If the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie obvious*. *In re Ratti*, 270 F.2d 810, 123 USPQ 349 (CCPA 1959)

MPEP §2143.01.

As was also previously noted, Verrier et al. is a home based system for monitoring sleep and assessing cardiorespiratory risks (much more critical than identifying REM sleep), in particular in home use. Column 1, lines 10-11. To that end, Verrier et al. notes that "hospital based systems are the most accurate for monitoring sleep state. One such system provides detailed information about and (sic) individuals brain wave activity through electroencephalographic (EEG) signals, eyelid movement through electrooculographic (EOG) signals and, muscle tone through electromyographic (EMG) signals." Column 2, lines 34-37. As previously noted, it is a vital use of the system of Verrier et al. to monitor heart rate "and dynamically (determine) the sleep state of the patient based on the heart rate variability." Column 4, lines 2-3. There is nothing in Verrier et al., at least as far as the Examiner has indicated or the applicants were able to find, to suggest combining it with Lidow.

The *MPEP* §2141.02 provides that a "prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention. *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983), cert. denied, 469 U.S. 851 (1984)." Thus, it is equally well established that, the fact "That the inventor achieved the invention by doing what those

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skilled in the art suggested should not be done is a fact strongly probative of nonobviousness." *Kloster Speedsteel AB v. Crucible Inc.*, 793 F.2d 1565, 230 USPQ 81 (Fed. Cir. 1986), on rehearing 231 USPQ 160 (Fed. Cir. 1986). In other words, a reference that teaches away from the invention is "strongly probative of nonobviousness." *Id.*

Given the concern in Verrier et al. about precise measurements, combining the rather imprecise clock of Lidow with Verrier et al. would frustrate the purpose of Verrier et al. Yet, in spite of this, apparently, the Examiner finds more compelling heretofore unexplained suggestions in the general knowledge of a person of ordinary skill in the art. Verrier et al., teaches away from combining with Lidow and so, teaches away from the present invention. Furthermore, combining Lidow with Verrier et al. result results in a self contained system that monitors and determines sleep state and sounds an alarm only within a selected period. This is quite different from the present invention. Therefore, the combination of Lidow with Verrier et al. does not result in the present invention as recited in any of claims 1 - 3 or 6 - 20.

The present invention is a programmable alarm clock system for waking a sleeper during a select period of sleep. Sensors are attached to the head of a sleeper for monitoring sleep activity. The receiver at local computer receives sleep activity signals from the sensors and relays the signals to a sleep analyzing server. A wake up time is entered at the local receiver. The sleep analyzing server analyzes the signal and provides the analysis back to the local computer which determines the best time to wake the sleeper. The local computer sends a trigger to the alarm clock which sounds the alarm waking the sleeper. See page 5, line 8 to page 6, line 7 and generally the description of the preferred embodiments in Figures 1 - 7.

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For the reasons set forth above, it is apparent that the Examiner is using the invention in *improper* hindsight for the suggestion to combine and to teach how to combine to result in the claimed invention. Accordingly, because without *improper* hindsight there is no suggestion or motivation to combine, because the references teach away from the combination and because the combination still does not result in the invention, the present invention is not obvious under 35 U.S.C. § 103(a).

Reconsideration and withdrawal of the final rejection of claims 1-3 and 6-20 under 35 U.S.C. § 103(a) over Lidow in view of Verrier et al. is respectfully solicited.

With respect to the rejection of claims 4 and 5, as previously noted, Allen et al. teaches a non-tethered sleep apnea screening device. In particular, Allen et al. teaches “a method and a device for evaluating a fully ambulatory subject for sleep apnea.” The Examiner relies on Allen et al. for monitoring brain wave activity through electroencephalography (EEG) and polysomnography. Allen et al. does not add anything to the combination of Lidow and Verrier et al. to result in claim 1 from which claims 4 and 5 depend, much less result in either of claims 4 or 5. Reconsideration and withdrawal of the final rejection of claims 4 and 5 under 35 U.S.C. §103(a) is respectfully solicited.

The basis for Examiner’s final rejection of the method of claims 21-31 and the program product of claims 32-34 is the Examiner’s assertion that they are inherently embodied in Lidow, because “the method steps will be met during the normal operation of the device” and “in a broad sense, the data processor has a readable program code thereon.” Applicants previously pointed out that inherency has no place in a rejection for obviousness under 35 U.S.C. § 103(a). Apparently, the Examiner felt empowered to ignore this.

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“(T)he PTO can require an applicant to prove that the prior art products do not necessarily or inherently possess the characteristics of his [or her] claimed product. Whether the rejection is based on ‘inherency’ under 35 U.S.C. 102, on ‘*prima facie* obviousness’ under 35 U.S.C. 103, jointly or alternatively,...” *In re Fitzgerald*, 619 F.2d 67, 70, 205 USPQ 594, 596 (CCPA 1980) (emphasis added). Thus, for inherency, all of the alleged inherent elements must be disclosed in a single reference, substantially as claim. “The fact that a certain result or characteristic may occur or be present in the prior art is not sufficient to establish the inherency of that result or characteristic. In re Rijckaert, 9 F.3d 1531, 1534, 28 USPQ2d 1955, 1957 (Fed. Cir. 1993)” MPEP §2112 (emphasis in original). “In relying upon the theory of inherency, the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic **necessarily** flows from the teachings of the applied prior art.” *Ex parte Levy*, 17 USPQ2d 1461, 1464 (Bd. Pat. App. & Inter. 1990) (emphasis in original). In rejecting a claim under 35 U.S.C. §103(a), the Examiner must show that the claim taken “as a whole would have been obvious...”

Thus, to find claims 21 – 40 obvious over either of Lidow or Verrier et al., requires that the Examiner find that those claims flow from the disclosure of either reference alone and so are unpatentable under 35 U.S.C. §102, not §103(a). Accordingly, the Examiner has failed to make a case of *prima facie* obviousness for claims 21-40 under 35 U.S.C. §103(a). Reconsideration and withdrawal of the final rejection of claims 21 -40 under 35 U.S.C. §103(a) is respectfully solicited.

The applicants thank the Examiner for efforts, both past and present, in examining the application. Believing the application to be in condition for allowance for the reasons set forth above, the applicants respectfully request that the Examiner

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reconsider and withdraw the final rejection of claims 1-40 under 35 U.S.C. §103(a) and allow the application to issue.

Should the Examiner believe anything further may be required, the Examiner is requested to contact the undersigned attorney at the local telephone number listed below for a telephonic or personal interview to discuss any other changes. No fee is believed necessary, however, please charge any deficiencies in fees and credit any overpayment of fees to attorney's deposit account number 50-0510 and advise us accordingly.

Respectfully Submitted,



Charles W. Peterson, Jr.
Registration No. 34,406

August 1, 2002
(Date)

Law Office of Charles W. Peterson, Jr.
P.O. Box 710627
Oak Hill, VA 20171
Telephone: (703) 481-0532
Facsimile: (703) 481-0585

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